

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 09/892,862  
Attorney Docket No. Q65135

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (Previously Presented): An electromagnetic device mounted to an automotive transmission and used in an oil containing sulfur, said electromagnetic device comprising:

- an outer casing;
- a moveable shaft supported by said casing;
- a bobbin disposed inside said outer casing so as to be disposed around said moveable shaft on a common axis with said moveable shaft;
- a coil embedded in an outer molding, said coil being constructed by winding a conducting wire onto said bobbin,
- an electrically-insulating layer coated on said conducting wire; and
- means for preventing sulfur compounds from permeating said electrically-insulating layer and attendantly reducing the formation of sulfur compounds on a surface of said conducting wire, thereby suppressing the reduction in adhesive of the electrically-insulating layer to said conducting wire, wire breakage, and short circuiting between said conducting wires,

said preventing means comprising said electrically-insulating layer of a material resistant to permeation by sulfur compounds.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 09/892,862  
Attorney Docket No. Q65135

2. (Currently Amended): The electromotive device according to Claim 1, wherein said bobbin and said outer molding are composed of a thermosetting resin.

3. (New): An electromotive device mounted to an automotive transmission and used in an oil containing sulfur, said electromagnetic device comprising:

an outer casing;

a moveable shaft supported by said outer casing;

a bobbin disposed inside said outer casing so as to be disposed around said moveable shaft on a common axis with said moveable shaft;

a coil embedded in an outer molding, said coil being constructed by winding a conducting wire onto said bobbin, and

an electrically-insulating layer coated on said conducting wire;

wherein said electrically-insulating layer comprises a modified polyimide resin which is resistant to permeation by sulfur compounds and organosulfur compounds, said electrically-insulating layer for preventing sulfur compounds and organosulfur compounds from permeating said electrically-insulating layer and attendantly reducing the formation of sulfur compounds on a surface of said conducting wire, thereby suppressing the reduction in adhesive of the electrically-insulating layer to said conducting wire, wire breakage, and short circuiting between said conducting wires.

4. (New): The electromotive device according to Claim 3, wherein said bobbin and said outer molding are composed of a thermosetting resin.

5. (New): An electromotive device mounted to an automotive transmission and used in an oil containing sulfur, said electromagnetic device comprising:

an outer casing;

a moveable shaft supported by said outer casing;

a bobbin disposed inside said outer casing so as to be disposed around said moveable shaft on a common axis with said moveable shaft;

a coil embedded in an outer molding, said coil being constructed by winding a conducting wire onto said bobbin, and

an electrically-insulating layer coated on said conducting wire;

wherein said electrically-insulating layer comprises a thermosetting epoxy resin which is resistant to permeation by sulfur compounds and organosulfur compounds, said electrically-insulating layer for preventing sulfur compounds and organosulfur compounds from permeating said electrically-insulating layer and attendantly reducing the formation of sulfur compounds on a surface of said conducting wire, thereby suppressing the reduction in adhesive of the electrically-insulating layer to said conducting wire, wire breakage, and short circuiting between said conducting wires.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 09/892,862  
Attorney Docket No. Q65135

6. (New): The electromotive device according to Claim 5, wherein said bobbin and said outer molding are composed of a thermosetting resin.

7. (New): An electromotive device mounted to an automotive transmission and used in an oil containing sulfur, said electromagnetic device comprising:

an outer casing;

a moveable shaft supported by said outer casing;

a bobbin disposed inside said outer casing so as to be disposed around said moveable shaft on a common axis with said moveable shaft;

a coil embedded in an outer molding, said coil being constructed by winding a conducting wire onto said bobbin, and

an electrically-insulating layer coated on said conducting wire;

wherein said electrically-insulating layer comprises a phenol resin which is resistant to permeation by sulfur compounds and organosulfur compounds, said electrically-insulating layer for preventing sulfur compounds and organosulfur compounds from permeating said electrically-insulating layer and attendantly reducing the formation of sulfur compounds on a surface of said conducting wire, thereby suppressing the reduction in adhesive of the electrically-insulating layer to said conducting wire, wire breakage, and short circuiting between said conducting wires.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 09/892,862  
Attorney Docket No. Q65135

8. (New): The electromotive device according to Claim 7, wherein said bobbin and said outer molding are composed of a thermosetting resin.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 09/892,862  
Attorney Docket No. Q65135

**IV. New Claims**

Applicants add new claims 3-8 to provide more varied protection for the invention. Support for these claims is provided in the original disclosure at, for example, pages 7-8, bridging paragraph and page 10, first full paragraph.

**V. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

  
John J. Dresch  
Registration No. 46,672

Date: August 21, 2003